

Cenk Celik, PhD

Research Fellow

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Postdoctoral Research Fellow proficient in conceptualisation and execution of independent projects.
Ethos of transparency, research integrity and keen collaboration in early career research.

Professional Experience

Research Fellow - Nanyang Technological University, Singapore Mar 2021 - Present

- Led a project researching *in vivo* and *in vitro* host-pathogen synergy in wound infection
- Conducted and analysed next-generation sequencing (bulk RNA-seq) data by developing pipelines in R
- Supported and supervised undergraduate and PhD students
- Utilised *C. elegans* and rodent disease models for different projects focusing on endoplasmic reticulum stress
- Edited and revised papers for submission to high-impact factor journals

Research Assistant - National University Hospital System, Singapore Nov 2019 - Aug 2020

- Produced and analysed data to create representative graphs highlighting results for presentations
- Planned, modified and executed research techniques, procedures and tests for nano-fibrous scaffold fabrication
- Performed statistical, qualitative and quantitative analysis
- Mentored new research staff

Graduate Assistant - National University of Singapore, Singapore Jan 2016 - May 2018

- Instructed undergraduate students on the fundamentals of cell culture as well as methods for collecting, analysing and reporting data
- Mentored master's students throughout all phases of their research projects

Education

PhD in Medicine - National University of Singapore, Singapore Aug 2015 - Aug 2020

- Researched scaffold-mediated stem cell chondrogenesis by pulsed electromagnetic fields
- Published a first-author research article (IF = 8.947) and contributed to another research article (IF = 7.153)
- Presented in two international conferences
- Awarded Singapore International Graduate Award scholarship by NUS
- Awarded Young Orthopaedic Researcher Award by APOA Sports Meeting '19
- Awarded NUS Researcher Travel Grant by the National University of Singapore
- Wrote a book chapter as a first author

MSc in Bioengineering - Ege University, Turkey Jul 2012 - May 2015

- Produced and characterised hybrid tissue scaffold approaches for 3D vascularised bone tissue
- Awarded TUBITAK 1002 and TUBITAK Career Grant scholarships

BSc in Bioengineering - Ege University, Turkey Sep 2007 - Jun 2012

- Received Turkish Prime Minister Scholarship (4 years)
- Awarded and administered TUBITAK 2209 University Students Research Projects Support Program

Publications

Research Articles

- Beaudoin-Chabot C, Wang L, **Celik C**, Abdul-Khalid ATF, Thalappilly S, Xu S, Koh JH, Lim VWX, Low AD, Thibault G (2021). ER stress sensor IRE-1 is detrimental in young but essential in aged animals fed glucose [under review].
- **Celik C**, Franco-Obregón A, Hui JHP, Lee EH & Yang Z (2021). Directionalities of magnetic fields and topographic scaffolds synergise to enhance MSC chondrogenesis. *Acta Biomater*, 119, 169-183.
- Parate D, Kadir ND, **Celik C**, Lee EH, Hui JHP, Franco-Obregón A & Yang Z (2020). Pulsed electromagnetic fields potentiate the paracrine function of mesenchymal stem cells for cartilage regeneration. *Stem Cell Res & Ther*. 11:46.
- Cetmi SD, Renkler NZ, Kose A, **Celik C** & Oncel SS (2019). Preparation of electrospun polycaprolactone nanofiber mats loaded with microalgal extracts. *Eng Life Sci*. 19:691-699.
- Duman OM, **Celik C**, Sarikanat M & Sendemir A (2014). Investigation of central nervous system neurons under mechanical strain: An *in vitro* traumatic brain injury model. *18th National Biomedical Engineering Meeting*, 1-4.

Book Chapters

- **Celik C**, Mogal VT, Hui JHP, Loh XJ & Toh WS (2018). Injectable Hydrogels for Cartilage Regeneration. In: Thakur V, Thakur M (eds) *Hydrogels. Gels Horizons: From Science to Smart Materials*. Springer, Singapore.
- Karaman O, **Celik C** & Sendemir A (2018). Self-Assembled Biomimetic Scaffolds for Bone Tissue Engineering. In Management Association, I. (Ed.), *Biomedical Engineering: Concepts, Methodologies, Tools and Applications*, 476-504, Hershey, PA: IGI Global.

Proceedings

- **Celik C**, Yang Z, Franco-Obregón A, Hui JHP (Apr 4-7, 2019). Altering MSC chondrogenesis by PEMF [Oral Presentation]. *APOA Sports Meeting 19*, Kuala Lumpur, Malaysia.

- **Celik C**, Yang Z, Franco-Obregon A, Hui JHP (Sep 9-11, 2018). Enhancement of MSC chondrogenesis by PEMF [Poster presentation]. *5th TERMIS World Congress*, Kyoto, Japan.
- Cetmi SD, Renkler NZ, Kose A, **Celik C**, Sendemir A & Oncel SS (Nov 11, 2015). Utilisation of microalgal extracts for construction of tissue scaffolds with electrospinning techniques [Poster presentation]. *7th International Bioengineering Congress*, Izmir, Turkey.
- Duman OM, Tasdemir S, Minaz MC, **Celik C** & Sendemir A (Nov 11, 2013). Fe₃O₄ reinforced polycaprolactone nanofibrous scaffolds [Poster presentation]. *VIth International Bioengineering Congress: Human Welfare*, Kusadasi, Turkey.
- **Celik C**, Karaman O, Sendemir A (Nov 11, 2013). More than a picture: Biomedical Illustration [Oral presentation]. *19th International Biomedical Science and Technology Symposium*, Kusadasi, Turkey.
- **Celik C**, Gorgun C, Sendemir A (Nov 11, 2013). Cell viability of keratinocytes on electrospun Spirulina/PCL composites [Poster presentation]. *19th International Biomedical Science and Technology Symposium*, Kusadasi, Turkey.
- Duman OM, Cogan S, Minaz MC, **Celik C** & Sendemir A (Sep 9, 2013). PCL/Fe₃O₄ Scaffold Production with Electrospinning [Oral presentation]. *Advanced Materials World Congress 2013*, Cesme, Turkey.
- Serdengeçti C, Sen I, Duman OM, **Celik C**, Sendemir A & Seki Y (Apr 4, 2013). Production and analysis of parameters affect morphological characters of chitosan nanospheres [Poster presentation]. *1st Ege University Nanotechnology Days*, Izmir, Turkey.
- Duman OM, **Celik C**, Minaz MC, Sendemir A (Apr 4, 2013). Fabrication of PEO/Fe₃O₄ composite tissue scaffolds by electrospinning [Poster presentation]. *1st Ege University Nanotechnology Days*, Izmir, Turkey.
- Demirkaya C, **Celik C**, Sarikanat M, Conk-Dalay M, Sendemir A (May 5, 2012). Applications of microalgae for tissue engineering [Oral presentation]. *Marine Biotechnology and Genomics Workshop*, Bodrum, Turkey.
- **Celik C**, Demirkaya C, Sarikanat M, Conk-Dalay M & Sendemir A (Nov 11, 2011). Effects of microalgae reinforcement on biocompatibility and mechanical properties of tissue engineering scaffolds [Oral presentation]. *1st National Aegean Composite Materials Symposium*, Selcuk, Turkey.

Proficiencies

- R/RStudio • Python • UNIX/Bash • CellRanger • Loupe Browser • NGS data analysis (bulk & single-cell RNA-seq)
- Documentation/Version control (GitHub, .Rmd, Benchling) • Image processing • Photoshop • Illustrator

Core Competencies

- qPCR • Western blot • Cell culture (stem cells & somatic) • Confocal imaging • Immunofluorescence
- Handling of mice & rats • Lentiviral transfection/transduction • Primer design • Single-cell isolation • Flow cytometry

Certifications

- **Responsible Care and Use of Laboratory Animals** - SingHealth, Apr '21, Credential ID: SEMC/RCULAC/2021/040
- **Genomic Data Science Specialisation** - John Hopkins University, Sep '20, Credential ID: D7S7D536DXDD
- **Data Analysis for Life Science** - HarvardX, Aug '20, Credential ID: a1cb1feb86a24a6b8d28873249cf1bad
- **Python Data Science** - edX & IBM, Jun '20, Credential ID: 8e35eee7e19b4071a2a1109e599b8800

Awards & Honours

- **Young Orthopaedic Researcher** - APOA Sports Meeting '19, Turkey Apr 2019
- **Researcher Travel Grant** - National University of Singapore, Singapore Sep 2018
- **Singapore International Graduate Award** - National University Singapore, Singapore Aug 2015 - Aug 2019
- **Research Scholarship** - TUBITAK 1002, Turkey Jun 2014 - May 2015
- **Research Scholarship** - TUBITAK Career Grant, Turkey Sep 2012 - Sep 2013
- **University Students' Research Project Support Program** - TUBITAK 2209, Turkey Sep 2011 - Jan 2012
- **Prime Minister Scholarship** - General Directorate of Credit and Dormitories Agency, Turkey Jan 2008 - Jun 2012

Volunteering

- **Instructor** - KizCode Oct 2021 - Present
- **Executive Committee Member** - Singapore-Turkey Friendship Association May 2016 - Jun 2018
- **Organising Committee** - 19th International Biomedical Science & Technology Symposium Nov 2012 - Dec 2012
- **Organising Committee** - 6th International Bioengineering Congress Nov 2012 - Dec 2012